Aug. 24, 1926.

1,597,069

C. E. EKLUND

CONCRETE RAILROAD TIE CONSTRUCTION

Filed July 19, 1923

Fig 1

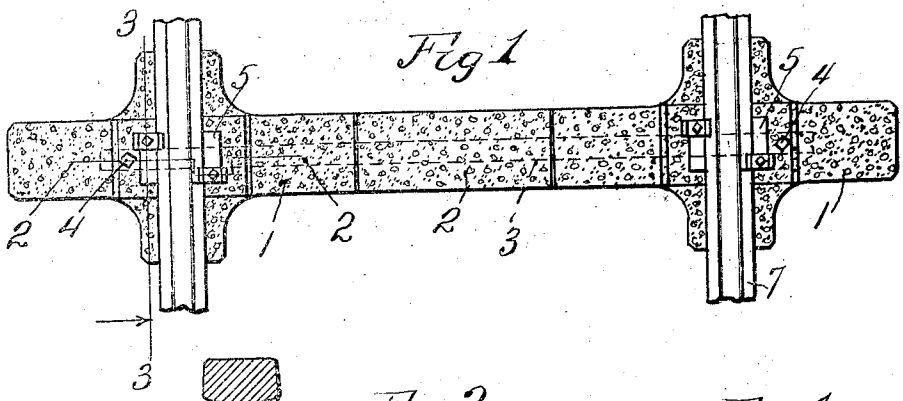


Fig 2

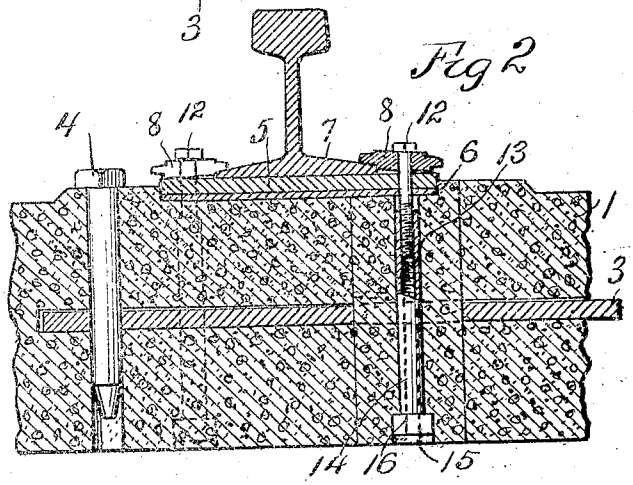


Fig 4

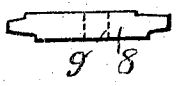
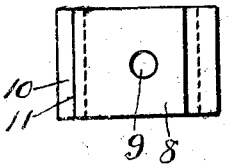


Fig 5



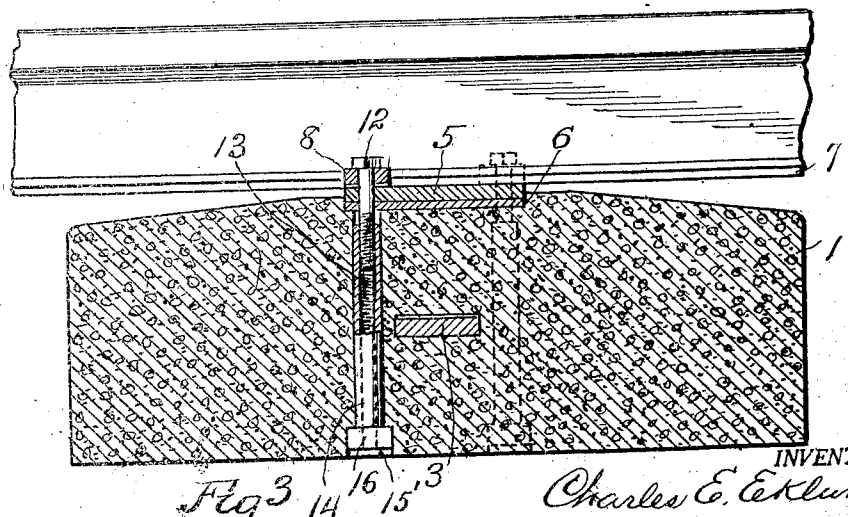


Fig 3

INVENTOR.

Charles E. Eklund

BY Warren D. House

His ATTORNEY.

Witness:

R. Hamilton

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UNITED STATES PATENT OFFICE.

CHARLES E. EKLUND, OF CHANUTE, KANSAS.

CONCRETE RAILROAD-TIE CONSTRUCTION.

Application filed July 19, 1923. Serial No. 652,553.

My invention relates to improvements in concrete railroad tie construction.

It relates particularly to concrete tie construction in which a concrete tie composed of a plurality of concrete sections disposed end to end has its sections held together by a tie bar mounted in the sections.

One of the objects of my invention is to provide in a tie construction of the kind described simple, cheap, efficient, strong and durable means for clamping rails to the tie.

A further object of my invention is to provide novel means for fastening a rail base to a concrete tie.

The novel features of my invention are hereinafter fully described and claimed.

In the accompanying drawing, which illustrates the preferred embodiment of my invention,

Fig. 1 is a top view of a concrete tie provided with my improvement.

Fig. 2 is a vertical sectional view, enlarged, on the line 2—2 of Fig. 1.

Fig. 3 is an enlarged cross section on the line 3—3 of Fig. 1.

Fig. 4 is an edge view of one of the rail clamping plates.

Fig. 5 is a top view of the same.

Similar reference characters designate similar parts in the different views.

The tie shown comprises two end sections 1 of concrete, and intermediate concrete section 2 having its ends abutting respectively against the adjacent ends of the sections 1, and a longitudinal tie bar 3 extending through the section 2 and into the sections 1, and held in place by two vertical pins 4 mounted respectively in the sections 1 and extending through the tie bar 3.

On the upper side of each section 1 is mounted a rail supporting plate 5 which rests on a cushion plate 6, mounted in a recess in the upper side of the section, and which may be composed of asbestos, felt, soft rubber or other suitable material.

7 designates the base of an ordinary rail mounted on the adjacent plate 5 and adapted to be held in position by clamping plates 8, Figs. 4 and 5, each having therethrough a vertical bolt hole 9, and each having, preferably at each end, and at opposite sides thereof respectively two end recesses 10, each having a shoulder 11, the shoulders being disposed at different distances from the bolt hole 9, Figs. 2, 4 and 5.

Each clamping plate 8 is adapted to be reversed end for end and to have either recessed side disposed uppermost. Each recess 10 is adapted to receive a rail base 7, and each shoulder 11 is adapted to bear against the adjacent longitudinal edge of the rail base 7, so as to hold the rail in position on the plate 5. By having all of the recesses 10 with shoulders 11 at different distances from the bolt hole 9, the clamping plate is adapted for use with rails having four different widths of bases.

For holding each clamping plate 8 against the adjacent plate 5, and against the adjacent rail base 7, it has extending through its hole 9, a vertical bolt 12, which extends through the adjacent plate 5 and cushion 6, and has its threaded lower end removably fitted in a vertical threaded hole 13 in the upper end of a vertical pipe 14, which is mounted in a vertical hole 15 extending through the adjacent section 1, and the lower end of which has a portion 15′ other than circular in which is fitted a head 16 provided at the lower end of the pipe 14.

Two pipes 14 are provided in each section 1 at opposite sides respectively of the bar 3 and at opposite sides respectively of the rail base 7.

In the operation of my invention, the sections 1 and 2 having been connected by the bar 3 and pins 4, and the pipes 14 having been mounted in the sections 1 respectively, the rail bases 7 are mounted on the plates 5, the clamping plates 8 are mounted on the plates 5 and on the rail bases 7, after which the bolts 12 are respectively extended through the clamping plates 8 and through the plates 5 and cushions 6 and screwed tightly respectively into the threaded holes in the upper ends of the pipes 14, thereby firmly holding the rails secured on the plates 5. The clamping plates 8 are disposed so that the edges of the rail bases will be in such recesses 10 that the shoulders 11 will bear against the rail bases. This may be effected by disposing the clamping plates 8 to suit the widths of the rail bases.

I do not limit my invention to the structure shown and described, as many modifications, within the scope of the appended claim, may be made without departing from the spirit of my invention.

What I claim is:—

In tie construction, the combination with a tie, a rail supporting plate thereon, and a rail having its base mounted on said plate,

the latter and said tie having alining vertical holes, of a pipe mounted in the hole in the tie and internally threaded at its upper end, a reversible clamping plate mounted on said supporting plate and having end recesses each adapted to receive and having less depth than said rail base, and provided with a hole therethrough alining with said holes in said tie and supporting plate, said recesses having shoulders at different distances from the hole in the clamping plate and each shoulder being adapted to bear against the adjacent edge of said rail base, that portion of the clamping plate having said hole being intermediate of the rail base and the place of bearing of the clamping plate on said supporting plate, said portion being spaced from said supporting plate, and a bolt extending through the hole in the clamping plate and having a head bearing on said clamping plate and having its lower threaded end fitted in the threaded upper end of said pipe.

In testimony whereof I have signed my name to this specification.

CHARLES E. EKLUND.